

**Final**

**Environmental Assessment for Expanding the North**

**Military Operations in Urban Terrain (MOUT) Target Array**

**at Avon Park Air Force Range, Florida**

**January 2005**

**Prepared by the**  
**Environmental Flight**  
**Avon Park Air Force Range, Florida**

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE <b>JAN 2005</b>		2. REPORT TYPE		3. DATES COVERED <b>00-00-2005 to 00-00-2005</b>	
4. TITLE AND SUBTITLE <b>Final Environmental Assessment for Expanding the North Military Operations in Urban Terrain (MOUT) Target Array at Avon Park Air Force Range, Florida</b>				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) <b>Air Combat Command,Environmental Flight,Avon Park Air Force Range,FL,33825</b>				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT <b>Approved for public release; distribution unlimited</b>					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT <b>The current North MOUT Target Array provides military training in an urban environment. The proposed action adds buildings to the MOUT anywhere within a defined perimeter, adds portable pop-up targets, and adds new training to include live fire by small arms and crew-served weapons. The alternative action adds buildings to the MOUT anywhere within a smaller defined perimeter, does not add pop-up targets, and does not add new training. The no action alternative retains the current buildings and training. Pop-up targets are not added. New training is not added. Environmental impacts are minimal. Both the proposed action and alternative action recognize the potential for noxious weeds along an access road as a result of adding shell and clay material for road stabilization. Both the proposed action and alternative action recognize that there is a potential for the wooden roofs on the new mock buildings to catch on fire during prescribed burns and wildland fires.</b>					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT <b>Same as Report (SAR)</b>	18. NUMBER OF PAGES <b>38</b>	19a. NAME OF RESPONSIBLE PERSON
a. REPORT <b>unclassified</b>	b. ABSTRACT <b>unclassified</b>	c. THIS PAGE <b>unclassified</b>			

## ACRONYMS AND ABBREVIATIONS

ACC	Air Combat Command
AFI	Air Force Instruction
APAFR	Avon Park Air Force Range
APC	Armored Personnel Carrier
ASOG	Air Support Operations Group
BDU	Bomb, Dummy Unit
CEQ	Council of Environmental Quality
CFR	Code of Federal Regulations
EA	environmental assessment
EIS	Environmental Impact Statement
EO	Executive Order
FONSI	finding of no significant impact
ft	feet
GBU	Guided Bomb Unit
GFAC	Ground Forward Air Controller
LF	Landfill
LGB	Laser Guided Bomb
MLRS	Multiple Launch Rocket System
mm	millimeter
MOUT	Military Operation Urban Terrain
NEPA	National Environmental Policy Act
NRHP	National Register of Historic Places
ROI	Region of Influence
TRI-DDS	Toxic Release Inventory Data Delivery System
US	United States
USAF	United States Air Force
USDA	United States Department of Agriculture
USC	United States Code
WSF	weapon safety footprint

## **FINDING OF NO SIGNIFICANT IMPACT**

The Environmental Flight at Avon Park Air Force Range (APAFR) has prepared an environmental assessment (EA) that expands the military operations in the North MOUT Target Array by constructing additional buildings, adding portable pop-up targets, and allowing additional types of training. This analysis was conducted in accordance with the *Regulations For Implementing The Procedural Provisions Of The National Environmental Policy Act* (40 CFR Parts 1500-1508, July 2003) and the *Environmental Impact Analysis Process* (32 CFR 989, July 2003).

### **1.0 NAME OF ACTION**

Expand the military operations in the North MOUT Target Array at Avon Park Air Force Range, Florida.

### **2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES**

#### **2.1 Proposed Action**

The proposed action expands military training in the North MOUT Target Array by constructing additional buildings, adding portable pop-up targets, and allowing additional types of training. Currently there are thirteen steel buildings and one concrete-block building in the North MOUT. The proposed action adds 32 concrete-block buildings and relocates two existing steel buildings. In the future, any number of concrete and steel buildings can be added to the North MOUT. They must, however, be constructed within a demarcated perimeter that is established by the proposed action. Existing hard- and soft-vehicle targets can be relocated to any location within the perimeter.

Up to 50 portable pop-up targets can be added to the North MOUT. These represent individual opposition personnel. The targets are slightly buried in the ground and, as with the new buildings, located anywhere within the demarcated perimeter. The targets can be removed after the exercise and stored off site.

The proposed action adds the following types of training in the North MOUT:

**2.1.1** Rotary-wing transport aircraft are now allowed to land, rappel, or sling load within the North MOUT in addition to the existing allowance of landing within 100 meters of a target.

**2.1.2** Ground troops are now allowed live fire with small arms and crew-served weapons within the North MOUT to include 40mm inert training rounds.

**2.1.3** Air-to-ground ordnance deliveries can now target up to two permanently designated metal sea-land buildings.

## **2.2 Alternative Action**

The alternative action retains the existing area of the North MOUT and allows the new construction and relocation of the buildings. The 32 concrete-block buildings are constructed within the smaller demarcated perimeter area of the existing North MOUT as well as relocating the two steel buildings. Any number of new buildings and relocations are allowed in the future if within the smaller perimeter. Pop-up targets are not added and the new military training is not added.

## **2.3 No Action Alternative**

The no action alternative retains the current buildings. No new buildings are added or relocated. Pop-up targets are not added nor is new military training added.

## **3.0 SUMMARY OF ENVIRONMENTAL IMPACTS**

### **3.1 Proposed Action**

The proposed action has no significant impact to the human environment. The EA identifies that introducing shell and clay material to an existing access road for road stability creates an environment conducive for noxious weeds. If noxious weeds establish, the EA acknowledges that they can be chemically treated. The EA recommends the minimal use of shell and clay materials and includes the requirement to ensure that the shell and clay material comes from a weed-free source. The EA also identifies the potential loss of wooden roofs on the mock concrete buildings due to prescribed and wildland fires. The EA recommends that the roofs be designed with little or no overhang over the exterior building walls and that the roofs have a smooth surface so that the risk of the roofs catching on fire is minimized.

### **3.2 Alternative Action**

The alternative action has no significant impact to the human environment. The concerns with noxious weeds and wooden roofs are the same as with the proposed action.

### **3.3 No Action Alternative**

The no alternative action has no significant impact to the human environment. The establishment of noxious weeds is minimal and is not a concern. Wooden roofs catching on fire is not a concern because there is only one wooden roof on an existing concrete-block building.

## **4.1 FINDING OF NO SIGNIFICANT IMPACT**

The attached environmental assessment (EA) was prepared and evaluated pursuant to the National Environmental Policy Act (Public Law 91-190, 42 U. S. C. 4321 et seq.) and IAW CFR 32-989, *The Environmental Impact Analysis Process*. Based on the analysis presented in this EA, I conclude that expanding the North MOUTS Target Arrays, adding pop-up targets, and adding associated military training as outlined in the proposed action do not constitute a “major

Federal action significantly affecting the quality of the human environment" when considered individually or cumulatively in the context of the referenced acts, including both direct and indirect impacts. Also, there are no mitigation measures necessary to implement this alternative. An environmental impact statement (EIS) will not be prepared.

Proposed Action:

Construct additional buildings, add portable targets, and allow for additional military training in the North MOOT Target Area.

7 mae ps

Date

Michael O. Beale

MICHAEL O. BEALE, Colonel,  
USAF Chairperson, 20 FW  
Environmental Leadership Board

Decommissioning Agency:

**Environmental Assessment for Expanding the Military Operations  
In the North Urban Terrain (MOUT) Target Array  
At Avon Park Air Force Range, Florida**

Proposed Actions: Construct additional buildings, add portable targets, and allow for additional military training in the North MOUT Target Array.

Type of Statement: Environmental Assessment

Cooperating Agencies: None

For further information: Paul Ebersbach  
18 ASOG, DET 1, OL A/CEV  
29 South Blvd.  
Avon Park Air Force Range, FL 33825-5700  
863-452-4119, ext 301

Abstract: The current North MOUT Target Array provides military training in an urban environment. The proposed action adds buildings to the MOUT anywhere within a defined perimeter, adds portable pop-up targets, and adds new training to include live fire by small arms and crew-served weapons. The alternative action adds buildings to the MOUT anywhere within a smaller defined perimeter, does not add pop-up targets, and does not add new training. The no action alternative retains the current buildings and training. Pop-up targets are not added. New training is not added.

Environmental impacts are minimal. Both the proposed action and alternative action recognize the potential for noxious weeds along an access road as a result of adding shell and clay material for road stabilization. Both the proposed action and alternative action recognize that there is a potential for the wooden roofs on the new mock buildings to catch on fire during prescribed burns and wildland fires.

## TABLE OF CONTENTS

<b>1.0 PURPOSE OF AND NEED FOR ACTION .....</b>	<b>1</b>
1.1 INTRODUCTION .....	1
1.2 BACKGROUND .....	1
<b>2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES .....</b>	<b>3</b>
2.1 PROPOSED ACTION .....	3
2.2 ALTERNATIVE ACTION .....	7
2.3 NO ACTION ALTERNATIVE .....	7
<b>3.0 AFFECTED ENVIRONMENT .....</b>	<b>7</b>
3.1 AIRSPACE AND AIRCRAFT OPERATIONS .....	7
3.2 SAFETY .....	8
3.3 NOISE .....	8
3.4 AIR QUALITY .....	8
3.5 ENVIRONMENTAL RESOURCES .....	9
3.6 WATER RESOURCES .....	9
3.7 GEOLOGY AND SOILS .....	9
3.8 VEGETATION .....	9
3.9 GRAZING MANAGEMENT .....	9
3.10 INVASIVE PLANT SPECIES .....	10
3.11 FORESTRY .....	10
3.12 FISH AND WILDLIFE .....	10
3.13 RECREATION .....	12
3.14 MILITARY TRAINING .....	12
3.15 CULTURAL RESOURCES .....	13
3.16 WILDLAND AND PRESCRIBED FIRE PROGRAM .....	13
<b>4.0 ENVIRONMENTAL CONSEQUENCES .....</b>	<b>14</b>
4.1 AIRSPACE AND AIRCRAFT OPERATIONS .....	14
4.2 SAFETY .....	14
4.3 NOISE .....	14
4.4 AIR QUALITY .....	15
4.5 ENVIRONMENTAL RESOURCES .....	15
4.6 WATER RESOURCES .....	15
4.7 GEOLOGY AND SOILS .....	15
4.8 VEGETATION .....	16
4.9 GRAZING MANAGEMENT .....	16
4.10 INVASIVE PLANT SPECIES .....	17
4.11 FORESTRY .....	17
4.12 FISH AND WILDLIFE .....	18
4.13 RECREATION .....	18
4.14 MILITARY TRAINING .....	18
4.15 CULTURAL RESOURCES .....	19



4.16 WILDLAND AND PRESCRIBED FIRE PROGRAM .....	19
4.17 CUMULATIVE IMPACTS .....	20
4.18 SHORT TERM USE/LONG TERM PRODUCTIVITY .....	20
4.19 IRREVERSIBLE/IRRETRIEVABLE COMMITMENT OF RESOURCES ...	20
4.20 ENVIRONMENTAL JUSTICE .....	20
<b>5.0 LITERATURE CITED .....</b>	<b>21</b>
<b>6.0 AGENCIES AND PUBLICS CONTACTED .....</b>	<b>22</b>
<b>7.0 LIST OF PREPARERS .....</b>	<b>22</b>
<b>APPENDIX A: RECORD OF CONSULTATION WITH REGULATORY AGENCIES AND PUBLICS .....</b>	<b>25</b>
 <b>LIST OF FIGURES</b>	
Figure 1.2-1 Avon Park Air Force Range’s location in Florida .....	2
Figure 2.1-1 The current urban village on the North Tactical Range .....	4
Figure 2.1-2 The concrete-block building that is currently part of the North MOUT .....	5
Figure 2.1-3 The expansion of the North MOUT .....	6
Figure 3.12-1 The location of the three threatened or endangered bird species near the North MOUT .....	12

## **1.0 PURPOSE AND NEED FOR ACTION**

### **1.1 INTRODUCTION**

Avon Park Air Force Range (APAFR) proposes to expand an existing mock urban village, known as the North Military Operation Urban Terrain (MOUT) Target Array, located in the North Tactical Range. The purpose of expanding the North MOUT Target Array is to create an urban environment that is common in the Middle East where current combat is taking place. This urban environment entails buildings being in high density and constructed with typical Middle East materials. The need is to improve realism for combat training. High-density urban environments create many combat challenges to the United States military forces. The challenges include locating opposition forces from the air and the ground, restricted lines-of-site for the use of weapons, avoidance of collateral damage to buildings adjacent to targets, and the coordination of friendly forces into and through such high-density settings. Middle East buildings are typically constructed of local materials such as mud, stone, and concrete. These materials make targeting with electronic and laser technologies difficult as opposed to the current metal buildings found in the North MOUT Target Array. Portable, pop-up targets are also added to the North MOUT Target Array. Additional military training is added to the North MOUT Target Array.

Expanding the North MOUT Target Array still follows the mandate found in Air Combat Command (ACC) Directory 90-2550, *Compliance and Standardization Requirements List, 20 June 2000, Item No. 3.3* (USAF 2000a). This directory states that training ranges will create target complexes that support training in MOUTs. Expanding the North MOUT Target Array also addresses the need for joint forces and assets training together in urban settings. The Realistic Training Review Board (RTRB) Action Item 02-2 identified disconnect between air and ground forces in terms of communication and targeting, while the Government Accountability Office's (GAO) study, *Military Operations: Recent Campaigns Benefited from Improved Communications and Technology, but Barriers to Continued Progress Remain* (GAO 2004), found limited realistic joint air and ground forces opportunities. Increasing the realism of the North MOUT Target Array contributes to correcting the deficiencies found in these reports.

### **1.2 Background**

Avon Park Air Force Range (APAFR) is located in Polk and Highlands Counties in central Florida (Figure 1.2-1). The range complex covers approximately 106,073 acres and is about 10 miles east of Avon Park and 15 miles northeast of Sebring, Florida. The major highways serving the range are US Highway 27 and State Route 64.

APAFR is the largest bombing and gunnery range east of the Mississippi River. The mission of APAFR is to provide a training infrastructure that allows US air and ground forces to practice the latest combat training techniques and procedures safely, efficiently, and realistically and to design training facilities that meet training needs. The 18th Air Support Operations Group (ASOG) at Pope Air Force Base, North Carolina, is responsible for the operation and maintenance of APAFR, which is assigned to the ACC. The range is used for bombing practice by US Air Force units from throughout the southeast.

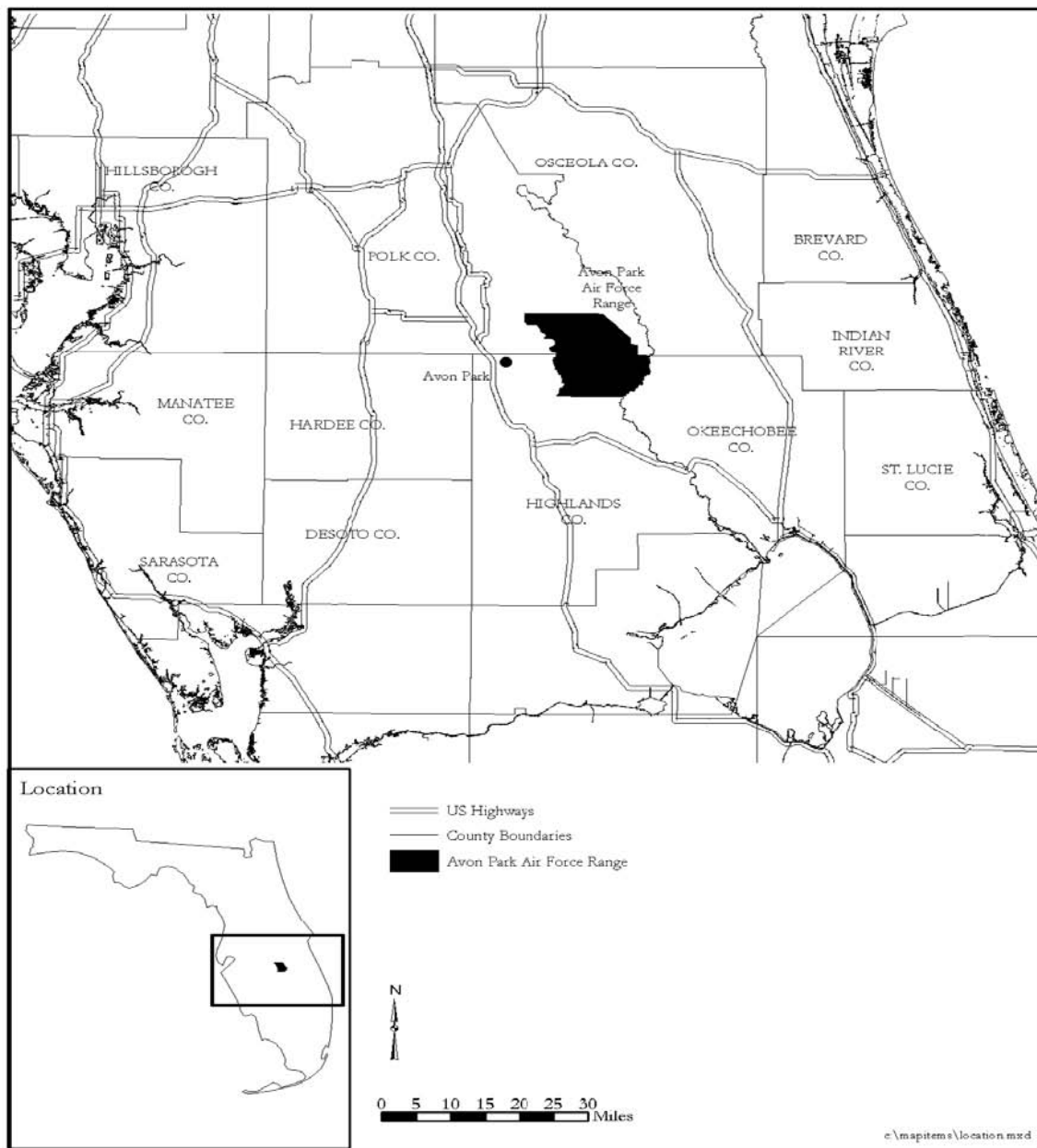


Figure 1.2-1 Avon Park Air Force Range's location in Florida.

In May of 2001, an environmental assessment (EA) titled, *Final Environmental Assessment for Construction of Military Operations in Urban Terrain Target Arrays at Avon Park Air Force Range, Florida* (USAF 2001), was accepted and documented by signature in a finding of no significant impact (FONSI). Subsequently, the North MOUT Target Array was constructed with steel sea-land containers. The containers and vehicles were airlifted in. The containers were stacked with heavy equipment. The village was designed primarily for coordinated air-to-ground deliveries of all APAFR approved inert ordnance to include laser guided bombs (LGBs), free-falling bombs, 2.75 inert and marker rockets, and helicopter gunnery. Some of these deliveries

allowed training by ground forces using guidance systems. The North MOUT Target Array was designed secondarily for non-mechanized ground assault operations (blank ammo only) by overland foot travel or by insertion with helicopters landing or rappelling.

## **2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES**

There is a proposed action, an alternative action, and a no action alternative. The proposed action expands and changes the building composition in the existing North MOUT Target Array, adds portable pop-up targets, expands current training to the expanded portion of the North MOUT Target Array, and adds new training for the entire North MOUT Target Array. The alternative action adds buildings without expanding them, does not add portable targets, and does not add new training. The no action alternative retains the existing North MOUT Target Array, adds no buildings or pop-up targets, and retains the current training use with no changes.

### **2.1 Proposed Action**

The current urban village occupies 17.50 acres (Figure 2.1.1). It consists of 14 buildings that vary in size from small buildings that replicate single-story homes to larger, two-story buildings that replicate administrative offices and commercial buildings. Thirteen of the buildings are constructed of stacked steel sea-land storage containers, while one building is concrete block. The steel containers are in three sizes: 8 ft x 8 ft x 20 ft, 6 ft x 8 ft x 20 ft, and 4 ft x 8 ft x 20 ft. The village is made of 202 steel containers. The stacked concrete-block building has large blocks that measure 6 ft x 2 ft x 3 ft (Figure 2.1.2). The building consists of 64 blocks. The roof is flat and made of wood. All of the buildings are spaced fairly far apart, on average 70 feet from each other. The buildings occupy a four-way, unimproved road intersection. The intersection creates four quadrants of the village, the quadrants being northeast, northwest, southwest, and southeast. Armored personnel carriers (APCs) make up the hard targets, while mock galvanized-steel transport trucks and mobile rocket launchers make up the soft targets. Most of the targets are located along the unimproved roads.

The proposed action expands the urban village area to approximately 25.50 acres (Figure 2.1.3). It then moves two of the sea-land containers buildings from the southeast quadrant to the northeast quadrant and places them next to the existing steel buildings so that all of the buildings are, on average, approximately 30 feet apart. The remainder of the existing metal buildings and the one concrete building remain in place. Thirty-two new concrete-block buildings with flat wooden roofs are constructed in any of the quadrants. They are placed within 30 feet or less of each other to replicate narrow streets and alleys. The buildings replicate either single-story homes or two-story administrative and commercial buildings. Approximately 800 blocks are required to construct these buildings. The concrete blocks are pre cast off site on the North Tactical Range near the main entrance where steel sea-land containers are presently stored. Most of the new concrete buildings and relocated steel buildings are constructed with no ground surface disturbance. About 25% require some minor land leveling. The buildings are placed so that they are compact and average about 30 feet apart from each other. Their configuration produces narrow alleys. Additional buildings may be added in the future. The same

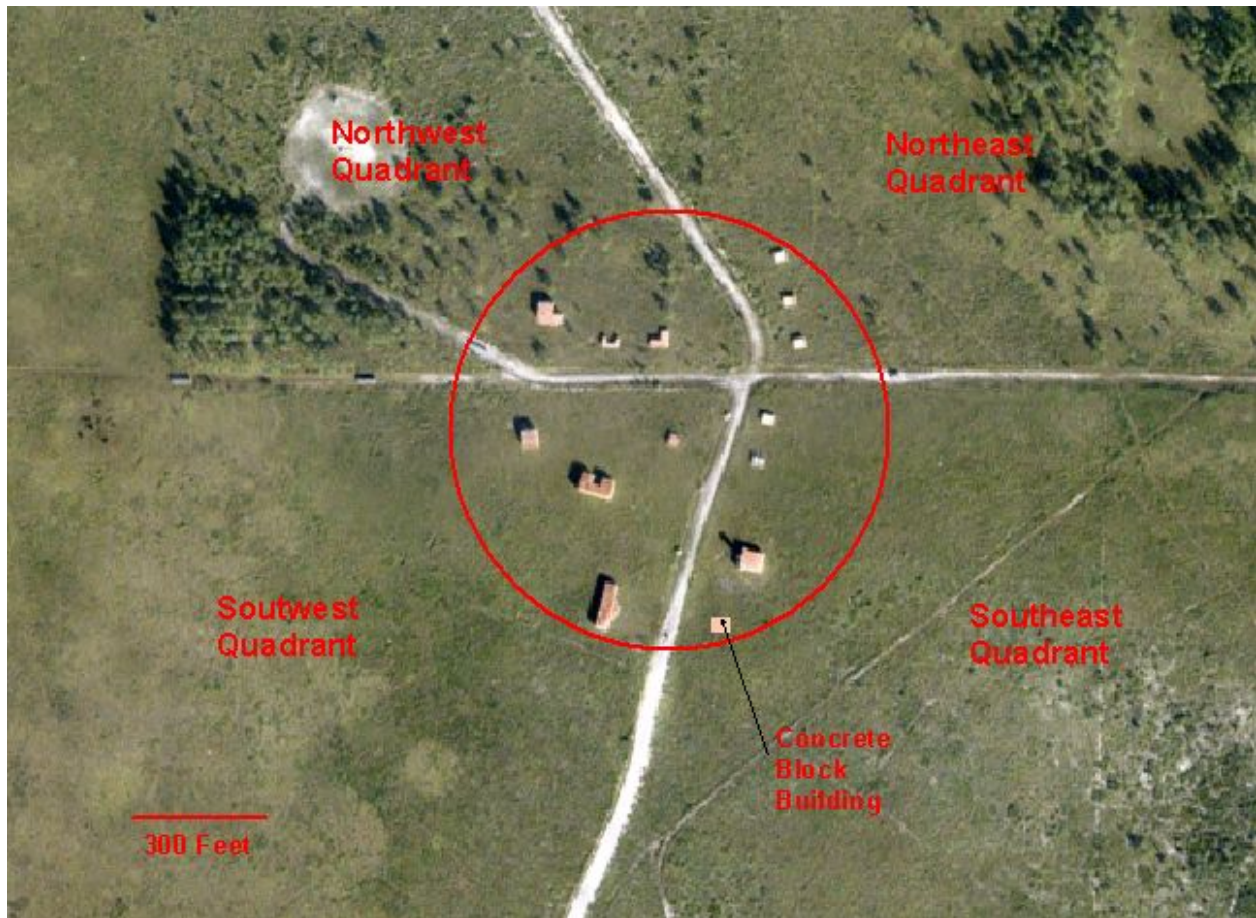


Figure 2.1-1 The current North MOUT Target Array on the North Tactical Range at Avon Park Air Force Range, Florida.

configuration remains with the new buildings being constructed closely together and not outside of the circle shown in Figure 2.1.3. The buildings currently shown in Figure 2.1.3 are displayed only to help conceptualize their density and do not represent the exact placement of the buildings under the proposed action. The metal and concrete buildings are constructed by simply stacking their respective materials on top of each other with forklift equipment. Some stacked sea-land containers may be secured to the ground-level sea-land containers. The building materials are hauled in by semi-tractors pulling flatbed trailers. The semi-trailers use an existing road for access. Portions of the existing road may have clay and shell material added to it to improve access. The existing hard and soft targets are dispersed amongst the steel and concrete buildings – anywhere within the perimeter.

Also dispersed amongst the buildings are portable pop-up targets. These targets represent individual opposition personnel and consist of either a flat plastic silhouette or a three-dimensional, plastic person. These targets are remotely controlled and spring up by a mechanical, non-hydraulic lifter. To protect the electronic equipment and lifters from ordnance, the targets are buried up to one foot in the soil and may have sand bags placed around them. The





Figure 2.1-2 The concrete block building that is currently part of the North MOU Target Array in the North Tactical Range at Avon Park Air Force Range, Florida.

pop-up targets are approximately seven feet long by three feet wide. Up to 50 pop-up targets are employed for any given exercise. They are placed anywhere within the urban village perimeter; placement being determined by the exercise. To reduce weathering, the pop-up targets are stored off site when not in use.

The aircraft and ordnance that have been previously assessed under the National Environmental Policy Act (NEPA) and authorized for training in the North MOU Target Arrays are the F-16, F-14, F-15, F-18, F-117, S-3, C-130, AV-8, A-10, AH-64, UH-60, SH-60, UH-64, T-1, B-1 B-2, and B-52 aircraft. Present ordnance expended by the fixed-wing aircraft include inert bomb units (BDUs) BDU-8, BDU-12, BDU-33, and BDU-38; inert guided bomb units (GBUs) GBU-10/12; and inert Mk-series bombs weighing 250, 500, 1,000, 1,500, and 2,000 pounds. Inert ordnance from rotary-wing aircraft includes 2.75-inch inert rockets and marker rockets. Also included is helicopter gunnery using 5.56mm, 7.62mm, and 50 caliber ammunition. Ground-to-



Figure 2.1-3 The proposed action's expansion of the North MOUT Target Array consisting of sea-land containers (in pink) and the establishment of the new concrete block buildings (in grey) on the North Tactical Range at Avon Park Air Force Range, Florida. The bottom right pink building is an existing concrete-block building.

ground artillery inert ordnance that has been assessed and authorized includes inert rockets from the multiple-launch rocket system (MLRS); 60mm, 81mm, and 4.2 inch mortars; and 105mm and 155mm towed howitzers. Artillery and mortars use existing firing points. Rotary-wing transport aircraft have been assessed and authorized to land, rappel, or sling load personnel, equipment, and supplies anywhere within 100 meters of a target. Non-mechanized troops have been assessed and are authorized to train anywhere in the village and approach or observe/coordinate from any location within the North Tactical Range. Only blank ammunition for ground troops has been assessed and authorized. Targets and buildings are lased from the ground and the air. The proposed action retains all of the previously assessed and currently authorized training and ordnance and adds the following:

**2.1.1** Rotary-wing transport aircraft are limited to landing, rappelling, or sling loading within the proposed action's new defined circle/acreage of the North MOUT Target Array. This may or may not place them within 100 meters of any given target.

**2.1.2** Ground troops are allowed live fire to include 9mm, 5.56mm, 7.62mm, and 50-caliber ball and tracer ammunition by individual and crew-served weapons by foot or mounted on vehicles. Targets are located only within the proposed action's North MOUT Target Array perimeter.

**2.1.3** Individual or crew-served weapons on foot or mounted on vehicles can fire 40mm inert training rounds.

**2.1.4** Air-to-ground ordnance deliveries can target up to two permanently designated metal sea-land buildings as targets.

**2.1.5** Small arms and crew-served weapons may direct fire at any concrete building, but not at any metal sea-land container building.

Air operations and ordnance delivery training at APAFR are not anticipated to increase in response to the reconfigured and expanded urban village. Ground training at APAFR is expected to increase by about five percent.

Over time, it is anticipated that the buildings will degrade due to the training. The building material will be replaced with the same material. Some of the sea-land container buildings may be replaced with concrete buildings; however, there will always be a mix of concrete and steel buildings for variety.

## **2.2 Alternative Action**

The alternative action retains the current perimeter, weapon systems, and training for the North MOUT Target Array. Live fire and additional training are not introduced. The current steel sea-land buildings are kept in place. Any number of new concrete buildings are added to achieve the desired density as with the proposed action, but the buildings are not placed outside of the existing perimeter. The buildings are constructed and maintained as with the proposed action. Pop-up targets are not added to the North MOUT Target Arrays. Shell and clay are added to the existing access roads.

## **2.3 No Action Alternative**

The no action alternative does not expand or modify the existing the North MOUT Target Arrays by increasing the perimeter, increasing the number of buildings, or relocating the buildings. The training remains the same. Shell and clay are not added to the existing roads.

## **3.0 Affected Environment**

### **3.1 Airspace and Aircraft Operations**

Airspace management includes the handling, directing, and controlling of flight operations in the air. Approximately 26,000 aircraft operations occurred at APAFR during FY-94 (USAF 2000b) and current annual aircraft operations are expected to be similar in number. The airspace region



of influence (ROI) encompasses an area within a 30 nautical mile radius of APAFR from the ground surface up to 18,000 feet mean sea-level. This represents a three-dimensional volume of airspace that supports air-to-ground conventional and tactical weapons delivery training, tactical navigation training, advanced air-to-air combat training, and equipment and personnel airdrop training. Management and operation of this airspace are the same for the proposed and alternative actions and the no action alternative.

### **3.2 Safety**

The safety considerations associated with the proposed action include crash fire and rescue response, flight risks (aircraft mishaps and emergencies), and ground risks such as ordnance and munitions risks and range safety issues. In selecting each target site, consideration was given to the footprints of various weapons. None of these footprints were larger or affected more area than those already in place.

### **3.3 Noise**

Noise analysis considers the source of the noise and the location of the receptors that detect the noise from the source. The source for noise originates from equipment used for constructing additional buildings in the North MOUT and from weapons, aircraft, and vehicles used during the training in the North MOUTS. The receptors include individuals who work with the construction of the additional buildings and those individuals who are training in the North MOUT. Both receptors are given personal protection to reduce the affects of noise. Outside receptors, such as individuals off the installation or individuals working within APAFR but off the North Tactical Range (nonparticipating individuals are excluded from the North Tactical Range during a military exercise), are outside levels of noise that are considered distracting. No new aircraft, vehicles, or weapons are introduced that have not been assessed in the previous *Final Environmental Assessment for Construction of Military Operations in Urban Terrain Target Arrays at Avon park Air Force Range (USAF 2001)*. The proposed action, alternative action, and no-action alternative all encompass the same sources and receptors in the same geographic area. The no-action alternative recognizes construction for maintenance.

### **3.4 Air Quality**

APAFR is in an attainment air quality zone. The North MOUT experiences emissions from vehicles, construction maintenance, and ordnance. Air and ground vehicles are considered mobile sources of emission under the Clean Air Act and are not calculated in air emissions. Emissions from ordnance are tracked by the Toxic Release Inventory Data Delivery System (TRI-DDS) (Radian International 2001). Emission releases by ordnance at APAFR are classified as 'Otherwise Use' 'Non-Air Releases.' Values reported for CY2003 are 13,885 pounds of copper and 5,563 pounds of lead.

### **3.5 Environmental Resources**

There are three munitions burial sites within the vicinity of the North MOUT. They are Land Fill (LF) 73 located 1,590 meters west from the road intersection in the North MOUT, LF 101a located 1,836 meters southwest from the road intersection, and LF 101b located 665 meters south of the road intersection. All landfill sites have their perimeters signed with warnings for personnel not to enter the area. The three sites have completed Preliminary Assessments and pending final Site Inspection reports. All three have signs stating “Danger Munitions Burial Site Keep Out.” The sites may have surface debris and minor contamination.

### **3.6 Water Resources**

The proposed action, alternative action, and no action alternative do not occur within surface-water bodies nor in wetlands (both jurisdictional or non-jurisdictional). Ground water is usually within a foot of the soil surface during the wet season of the year (June-October) and lower during the rest of the year (USDA 1990).

### **3.7 Geology and Soils**

The geology and soils for this EA are described in detail in the *Final Environmental Assessment for Construction of Military Operations in Urban Target Arrays at Avon Park Air Force Range, Florida (USAF 2001)*. In summary, the North MOUT and adjacent area lie on a remnant marine sand bar surrounded by the Osceola Plain. The surficial geology consists of undifferentiated deposits of unconsolidated coastal sand, shell, silts, and gravelly sand. The North MOUT is on the Myakka soil series. This soil is a very deep, sandy soil that is poorly drained with rapid to moderate rapid permeability (Carter 1995).

### **3.8 Vegetation**

Vegetation for this EA is described in detail in the *Final Environmental Assessment for Construction of Military Operations in Urban Target Arrays at Avon Park Air Force Range, Florida (USAF 2001)*. In summary, the North MOUT for the proposed action, alternative action, and no action alternative is located on a dry-mesic sandy pine flatwoods community type that is included in Florida Natural Areas Inventory as the *Upper Bombing Range Ridge Natural Area* (Orzell 1997). This specific natural area is 10,625 acres in size.

### **3.9 Grazing Management**

#### **3.9.1 Proposed Action**

This action will have a little impact to the grazing program. The expansion of the village with additional buildings is very small in comparison to the size of the pasture. Although cattle have access to this area, forage in this area is not leased to the lessee; therefore, there is no additional affected environment.

### **3.9.2 Alternative Action**

This action will have a little impact to the grazing program. The expansion of the village with additional buildings is very small in comparison to the size of the pasture. Although cattle have access to this area, forage in this area is not leased to the lessee; therefore, there is no additional affected environment.

### **3.9.3 No Action Alternative**

This action does not change existing conditions; therefore, there is no change in the affected environment.

## **3.10 Invasive Plant Species**

### **3.10.1 Proposed Action**

There currently are no active colonies of invasive plants in this area. Tropical soda apple and Cogon grass are both candidates for possible invasion into this area. Any sort of soil disturbance during the creation of this village could create additional sites for possible invasion; however, it is unlikely that this will occur because there are no populations in the vicinity of the target. The potential affected environment is very small – less than an acre.

### **3.10.2 Alternative Action**

There currently are no active colonies of invasive plants in this area. Tropical soda apple and Cogon grass are both candidates for possible invasion into this area. Any sort of soil disturbance during the creation of this village could create additional sites for possible invasion; however, it is unlikely that this will occur because there are no populations in the vicinity of the target. The potential affected environment is very small – less than a ½ acre.

### **3.10.3 No Action Alternative**

This action does not change existing conditions; therefore, there is no change in the affected environment.

## **3.11 Forestry**

There are no commercial forest products in the North MOUT. Natural longleaf-pine stands are managed to enhance Red cockaded woodpecker habitat. These pine stands are approximately ½ mile northeast of the MOUT and within the North Tactical Impact Range.

## **3.12 Fish and Wildlife**

APAFR has documented eight threatened and endangered animal species on the 106,000-acre installation. Of these, the Florida grasshopper sparrow (*Ammodramus savannarum floridanus*, federally endangered), the Florida scrub-jay (*Aphelecoma coerulescens*, federally threatened),

and Red-cockaded woodpecker (*Picoides borealis*, federally endangered) are known to occur within the general vicinity of the MOUT. Figure 3.12-1 shows that none of the three species are located within the MOUT array.

The Florida scrub-jay (FSJ) is federally listed as threatened. The FSJ is restricted to the oak scrub found on old coastal dunes in central Florida. The understory of the scrub is usually sparse and dominated by saw palmetto. However, the dominant plants are myrtle oak, scrub oak, and sand live oak. This FSJ habitat is not present in the MOUT array. It is not likely that the FSJ will use this site.

The Florida grasshopper sparrow (FGS) is federally listed as endangered. The FGS is highly habitat-specific and relies on dry prairie habitat that is maintained by fire on a regular cycle, normally one to three years. The MOUT array is located in an area that is not identified as prairie habitat. However, FGSs historically have been identified in the area. The FGS population ranged from a high of 43 in 1997 to zero in 2003. Based upon monitoring data, it appears that the sub-population near the MOUT array is no longer viable.

The Red cockaded woodpecker (RCW) is federally listed as endangered. RCWs inhabit open, mature longleaf-pine forests. The nearest RCW cluster to the MOUT array is approximately one-half mile.

### **3.12.1 Proposed Action**

The proposed expansion of the Foxtrot Range MOUT target occurs in a predominantly pine flatwoods site. The site has been modified by the construction of the existing mock urban village. The area of the present site is 17.5 acres (Fig 2.1.1.). On December 4, 2000, the U.S. Fish and Wildlife Service concluded that the activity would not likely adversely affect the Florida scrub jay, Florida grasshopper sparrow, or Red cockaded woodpecker. This proposed action increases the effected area by only eight acres and is not likely to adversely affect any listed species at APAFR.

### **3.12.2 Alternative Action**

The scope of the alternative action is the addition of new concrete buildings which will be added to achieve the desired density as with the proposed action, but the buildings are not placed outside of the existing perimeter. Therefore, this alternative is very similar with no more environmental effects as the project original construction of the MOUT.

### **3.12.3 No Action Alternative**

The no action alternative would result in no increased military activity or a change in the existing MOUT. A Biological Assessment was written by APAFR and submitted to the Fish and Wildlife Service (FWS) on the existing MOUT. FWS concurred with APAFR in that the activity is not likely to adversely affect the FGS, FSJ, or the RCW.

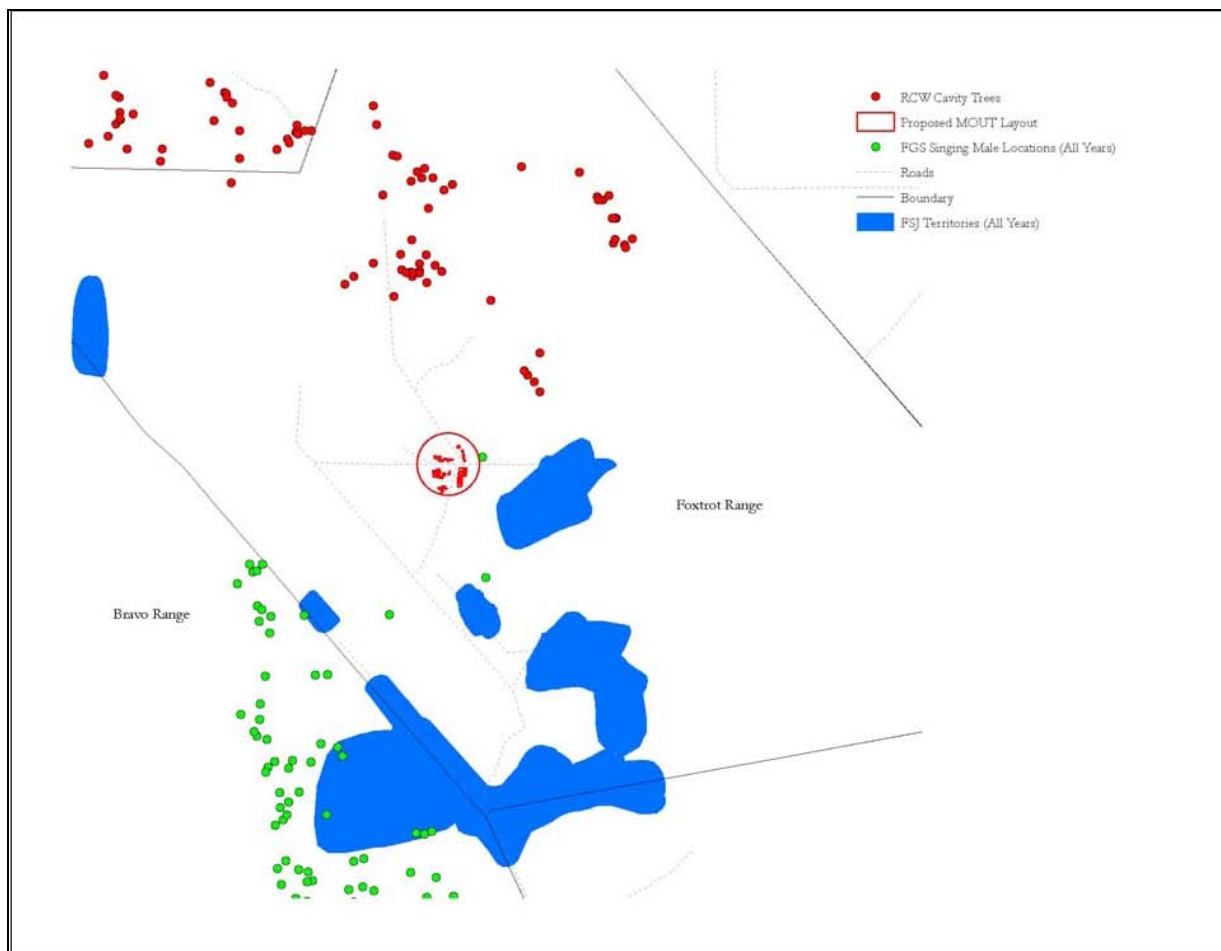


Figure 3.12-1. The location of the three threatened or endangered bird species found near the North MOUT Target Array at Avon Park Air Force Range, Florida.

### 3.13 Recreation

Public and military recreation is not authorized in the North Tactical Range. Game species are present in the North Tactical Range and are monitored for population estimates. These estimates are incorporated in the APAFR game species populations as a whole. Feral hogs are trapped live and removed from the North Tactical Range to manage for damage and population control.

### 3.14 Military Training

Currently, targets and buildings are lased from the ground and the air. Ground forward air controllers (GFAC) provide terminal control to allow practice/inert ordnance to be employed on targets within the urban village. GFACs operate from observation points and must consider collateral damage, protection of friendly forces, aircrew survival, and ability to neutralize the target.

### **3.14.1 Proposed Action - Expand the urban village area to approximately 25.50 acres**

The proposed action retains all of the previously assessed and currently authorized training and ordnance.

### **3.14.2 Alternative Action - Retain the current perimeter, weapon systems, and training**

The alternative action retains the current perimeter, weapon systems, and training for the North MOUT Target Array.

### **3.14.3 No Action Alternative**

The no action alternative does not expand or modify the existing the North MOUT Target Array by increasing the perimeter, increasing the number of buildings, or relocating the buildings.

## **3.15 Cultural Resources**

As of FY 03, a total of 34,829 acres (14,095 ha), or 32.8% of APAFR, have been inventoried for archeological resources, which range in context from the late Paleo-Indian period to World War II. This work is the result of twelve separate archaeological surveys conducted since 1983. These surveys used a variety of archaeological methods and identified a total of 131 archeological resources, of which 41 are believed eligible for inclusion in the National Register of Historic Places (NRHP). The area encompassing the proposed MOUT Target location was surveyed for cultural resources in early 2004. Archeologists discovered a portion of the Seaboard Airline Railway (8HG1095/8PO6785) bordering the southwest corner of the target area, well out from the center of the target complex. This railway runs throughout APAFR, entering at the north boundary fence and exiting at the south. This railway connected a series of turpentine collecting and processing settlements during the early part of the 20th century and is considered eligible for the NRHP. No other significant cultural resources were found in the vicinity of the proposed MOUT Target locations (USAF 2004c).

## **3.16 Wildfire and Prescribed-Fire Program**

The current North MOUT site and proposed North MOUT site occupies Burn Units 25, 49, and 59, and an unnumbered burn unit (USAF 2004b). The existing roads in the North MOUT serve as fuel breaks that create the respective burn units. The southwest area below the intersection was prescribed-burned in 2000, the southeast area in 2001, and the northwest and northeast areas in 2002. None of the areas are scheduled to be prescribed-burned in 2005. The North MOUT is in an inert impact range that has a higher-than-average potential for wildfire due to spotting charges and tracer rounds. Ordnance-created fires in the impact area are rarely suppressed because they are generally self-contained in the impact area due to previous prescribed burns and other past ordnance-induced fires that limit the availability of fuels for fire spread.

## **4.0 Environmental Consequences**

### **4.1 Airspace and Aircraft Operations**

In FY 1994, there were a total of 25,698 aircraft operations at APAFR. An environmental impact analysis of this rate and an increase to 62,271 operations indicates that APAFR's airspace can accommodate this level of activity without significant environmental impact (U.S. Air Force, 2000b). The proposed action will not increase the amount of air operations. The alternative action and no action alternative do not increase nor decrease the amount of air operations.

### **4.2 Safety**

Environmental impact analysis of safety issues for all ongoing training, which annually totals more than 25,000 aircraft operations, indicates that there are no significant environmental impacts relative to safety for ongoing operations (U.S. Air Force, 2000b). Under all alternatives, there are expected to be no significant environmental impacts relative to fire and crash rescue response, flight risks, or ground risks.

#### **4.2.1 Proposed Action**

Under this alternative, safety considerations involving the village expansion will remain the same as those considered under current range utilization.

#### **4.2.2 Alternative Action**

This alternative is the same as the proposed action.

#### **4.2.3 No Action Alternative**

Under this alternative, there would be no change in the level of existing safety considerations.

### **4.3 Noise**

#### **4.3.1 Proposed Action**

The proposed action increases noise for the construction of the new buildings and pop-up targets. Noise is expected to increase by about five percent by corresponding with the anticipated increase in ground training. Noise is not an appreciable impact because the receptors are the participants (either construction or training) and will have personnel hearing protection available if they are subjected to noise levels that are considered distracting. Other receptors that may hear the noise will be outside the levels considered distracting.

#### **4.3.2 Alternative Action**

Noise impacts for the alternative action are the same as with the proposed action.

### **4.3.3 No Action Alternative**

The no action alternative contributes no new noise because there is neither new construction nor new training. Training is not expected to increase, so noise levels remain as they are currently. Noise is not an appreciable impact, because the receptors have personal hearing protection available if they are within noise levels that are considered distracting. Other receptors that may hear the noise are beyond noise levels that are considered distracting.

## **4.4 Air Quality**

Impact to air quality by the proposed action, alternative action, and no action alternative is minimal. The mobile sources are infrequent and not subjected to the Clean Air Act. Emission releases by ordnance at APAFR are classified as 'Otherwise Use' 'Non-Air Releases.' Values reported for CY2003 are 13,885 pounds of copper and 5,563 pounds of lead.

## **4.5 Environmental Resources**

The proposed action and alternative action have the same perimeter to the south (proposed action expands only to the north); therefore, the distances to each of the munitions burial sites are the same. From the southern perimeter, LF 73 is 1,308 meters away, LF 101a is 1,634 meters away, and LF 101b is 483 meters away. These distances are far enough away that ordnance will not land in them and disturb the soil surface. The munitions burial sites are signed well so that units on the ground will not walk through them.

The no action alternative retains the current buildings with the southern most building being approximately the same distance to the munitions burial sites as the southern perimeters and having the same results as the proposed action and alternative action.

## **4.6 Water Resources**

The proposed action, alternative action, and no action alternative do not impact wetlands because they are not present. Munitions delivered into the North MOUT area were determined not to have an adverse impact on ground water with the current use of the MOUTS (USAF 2001). The proposed action, alternative action, and no action alternative will not have an adverse impact on the ground water.

## **4.7 Geology and Soils**

A slight increase in soil disturbance is expected for the proposed action and alternative action. Past experience with construction resulted in very little surface disturbance as the building materials were placed on mostly vegetated ground. Soil compaction will be minor due to the short-term use of vehicles for construction and occasional maintenance. Disturbance from ordnance will be minimal. The soil pH will increase with the addition of shell and clay material to stabilize the transportation road. This pH will invite introduced weedy plant species along the edges of the road. The recommendation is to use the road fill sparingly and only on the roads. Any cut-and-fill required for leveling buildings should be done with native soil on site.



## **4.8 Vegetation**

### **4.8.1 Proposed Action**

The proposed action impacts the most area (25.50 acres) and consequently the most vegetation. However, minimal disturbance is expected with most of the construction placing the buildings on established vegetation. The transportation road will add shell and clay material that changes the soil pH along the road. The pH change invites the potential for non-native vegetation along the roadside by a seed source in the fill material itself or carried in by vehicles using the road. If these non-native plant species are introduced where this soil interface occurs, the integrity of the vegetation community will be lost within the respective area, and it will not qualify as a natural area. The recommendation is to use road fill sparingly and only on the transportation road, not within the North MOUT site proper.

### **4.8.2 Alternative Action**

The alternative action leaves the same potential as the proposed action, but with slightly less acreage (17.50) potentially disturbed by construction.

### **4.8.3 No Action Alternative**

The no action alternative does not disturb any vegetation outside of normal maintenance. Little, if any, impacts are expected.

## **4.9 Grazing Management**

### **4.9.1 Proposed Action**

This action will have a little impact to the grazing program. The expansion of the village with additional buildings is very small in comparison to the size of the pasture. Although cattle have access to this area, forage in this area is not leased to the lessee; therefore, there is no impact to the grazing program.

### **4.9.2 Alternative Action**

This action will have a little impact to the grazing program. The expansion of the village with additional buildings is very small in comparison to the size of the pasture. Although cattle have access to this area, forage in this area is not leased to the lessee; therefore, there is no impact to the grazing program.

### **4.9.3 No Action Alternative**

No impact to the grazing program.

## **4.10 Invasive Plant Species**

### **4.10.1 Proposed Action**

There currently are no active colonies of invasive plants in this area. Tropical soda apple and Cogan grass are both candidates for possible invasion into this area. Any sort of soil disturbance during the creation of this village could create additional sites for possible invasion; however, it is unlikely that this will occur because there are no populations in the vicinity of the target. The potential impact is negligible.

However, if clay or shell material is added to stabilize the existing unimproved sandy access roads, this material will impact the native vegetation. Such changes have been documented in the scientific literature from studies in peninsular Florida (Greenberg et al., 1997). Adding calcareous material as proposed in this action like shell, clay, or a mixture of these changes the soil pH in an otherwise acidic landscape causing shifts in vegetation composition. Over time, changes result in replacement of the native groundcover from an acid flora to one dominated by non-indigenous and exotic plant species. Invasion of native groundcover by non-indigenous species threatens the native biodiversity by altering species composition and site characteristics. Especially along the sandy unimproved roads in Foxtrot Range where the natural soil characteristics differ markedly, conditions may be enhanced for invasion by non-indigenous plants by spreading their propagules into otherwise undisturbed native groundcover vegetation. Specifically, natalgrass (*Rhynchelytrum repens*) and Cogan grass (*Imperata cylindrica*), both invasive exotics, have the potential to become established if care is not taken to acquire shell from a source free of these exotic plants/seeds.

### **4.10.2 Alternative Action**

There currently are no active colonies of invasive plants in this area. Tropical soda apple and Cogan grass are both candidates for possible invasion into this area. Any sort of soil disturbance during the creation of this village could create additional sites for possible invasion; however, it is unlikely that this will occur because there are no populations in the vicinity of the target. The potential impact is negligible. Adding soil amendments to the existing roads has the same result as the proposed action.

### **4.10.3 No Action Alternative**

The no action alternative has the least potential for introducing invasive plants, because soils are disturbed only when maintaining the buildings and no road fill material is introduced.

## **4.11 Forestry**

The proposed action, alternative action, and no action alternative do not affect commercial forestry practices nor do they affect the management of the pine stands for Red cockaded woodpecker habitat.

## **4.12 Fish and Wildlife**

### **4.12.1 Proposed Action**

Since this area has been modified by prior military activities, the perimeter increases by a small amount (from 17.5 acres to 25.5 acres), no new weapons systems or training are introduced, the number of sea-land buildings remain the same, and all materials are placed within the existing perimeter, minimal increased environmental effects are expected. The proposed action may affect, but is not likely to adversely affect, any threatened or endangered species.

### **4.12.2 Alternative Action**

Since the alternative action is foreseen as less damaging than the proposed action which has little to no effect on threatened or endangered species, the alternative action will likewise have little to no effect on threatened and endangered wildlife.

### **4.12.3 No Action Alternative**

The no action alternative will allow activities to continue in a way that was concurred with by the US Fish and Wildlife Service in a Biological Opinion that was issued by the Vero Beach Office on December 4, 2000. This alternative will have no effect on threatened and endangered species on APAFR.

## **4.13 Recreation**

Proposed action, alternative action, and no action alternative do not affect the public recreational hunting. The proposed action and alternatives do not affect the monitoring of game species or the live trapping of hogs.

## **4.14 Military Training**

### **4.14.1 Proposed Action**

The proposed action retains all of the previously assessed and currently authorized training and ordnance. Additional training will occur as outlined in the proposed action. Air operations and ordnance-delivery training at APAFR are not anticipated to increase in response to the reconfigured and expanded urban village. Ground training at APAFR is expected to increase by about five percent. The proposed action presents a very minor increase in military activity and is not expected to have an impact on the training environment.

### **4.14.2 Alternative Action**

The alternative action retains the current perimeter, weapon systems, and training for the North MOUT Target Array. Additional training will still occur as outlined in the proposed action. Air operations and ordnance-delivery training at APAFR are not anticipated to increase with the reconfigured urban village. Ground training at APAFR is expected to increase by about five

percent. The alternative action presents a very minor increase in military activity and is not expected to have an impact on the training environment.

#### **4.14.3 No Action Alternative**

The training remains the same as in the past with no net increase or decrease.

#### **4.15 Cultural Resources**

A section of the NRHP-eligible Seaboard Airline Railway line (8HG1095/8PO6785) borders the southwest corner of the MOUT location, though well out from the center of the complex. No cultural resources are located within the perimeter of the MOUT location.

##### **4.15.1 Proposed Action**

There are no significant impacts to cultural resources expected under this alternative. The Seaboard Airline Railway site lies well out from the center of the target complex and is not likely to be damaged by any of the proposed training scenarios under this action.

##### **4.15.2 Alternative Action**

There are no significant impacts to cultural resources expected under this alternative. The Seaboard Airline Railway site lies well out from the center of the target complex, and is not likely to be damaged by any of the proposed training scenarios under this action.

##### **4.15.3 No Action Alternative**

There are no significant impacts to cultural resources expected under this alternative. The Seaboard Airline Railway site lies well out from the center of the target complex and is not likely to be damaged by any of the proposed training scenarios under this action.

#### **4.16 Wildfire and Prescribed Fire Program**

The proposed action, alternative action, and no action alternative do not change the configuration of the burn units. Prescribed burning can continue following management prescriptions. The five percent increase in ground-troop training and the addition of ground-troop live fire with tracer rounds increases the potential for wildfire. As with most ordnance-ignited wildfires in the North Tactical Range, the wildfire can be worked as a prescribed burn with the existing previously burned burn units. In summary, while there is a slight increase in the potential for wildfires generated around the North MOUT, these increased wildfires can be managed within the North Tactical Range in a way that benefits natural resource management and range infrastructure management. The wooden roofs on the concrete block buildings, however, do have a potential for catching on fire and burning up. Minimizing the overhang of the roofs and keeping the wood surface smooth will help prevent their catching on fire.

#### **4.17 Cumulative Impacts**

Cumulative impacts result from the incremental effects of an action when considered in the context of other past, present, and reasonably foreseeable future actions. The proposed action, alternative action, and no action alternative do not constitute an appreciable increase in the overall military activity at APAFR or in the North MOUT location specifically.

#### **4.18 Relationship Between Short-term Use of the Environment and the Maintenance and Enhancement of Long-term Productivity**

Construction contributes to short-term effects such as noise, minor dust, and vehicle emissions. Long-term productivity is reduced as plant cover is displaced by mock buildings and targets. The amount of short- and long-term effects are very minor and are not considered a concern.

#### **4.19 Irreversible and Irretrievable Commitment of Resources**

Irreversible and irretrievable commitment of resources includes fossil fuels used during construction, maintenance, and military training for the proposed action and alternative action. While the no action alternative foregoes the use of fossil fuels for construction, military training requiring the same amount of fossil fuels would still be used by the respective military training units either at APAFR or another military training range. When viewed by construction alone, the amount of fossil fuels used is minor.

#### **4.20 Environmental Justice**

Environmental justice was established by Executive Order 12898 (1994) in an effort to prevent federal activities from deliberately excluding or subjecting minority and low-income populations to situations that adversely affect human health or the environment. Section 2-2 reads, "Each Federal agency shall conduct its programs, policies, and activities that substantially affect human health or the environment, in a manner that ensures that such programs, policies, and activities do not have the effect on excluding persons (including populations) from participation in, denying persons (including populations) the benefits of, or subjecting persons (including populations) to discrimination under, such programs, policies, and activities, because of their race, color, or national origin." Determining and assessing potential impacts that may involve environmental justice entails determining the ROI by the proposed action and alternatives and then determining where, if any, minority or low-income populations occur within the ROI. The region of influence for the proposed action, alternative action, and no action alternative is very small and is restricted to the North Tactical Range. No minority or low-income populations are found within the North Tactical Range.

## 5.0 Literature Cited

Carter, L. 1995. Soil Survey for Avon Park Air Force Range, Florida. Final Report to Avon Park Air Force Range, FL 225pp.

DeLaney, K. R. 1993. Protected vascular plant survey of the Avon Park Air Force Range, xeric habitats. Final edition submitted to APAFR. 11 pp. + Appended Maps.

GAO 2004. Military Operations: Recent Campaigns Benefited from Improved Communications and Technology, but Barriers to Continued Progress Remain, June 2004 (GAO-04-547). General Accountability Office <http://www.gao.gov>.

Greenberg, C. H. , S. H. Crownover, and D. R. Gordon. 1997. Roadside soils, a corridor for invasion of xeric scrub by non-indigenous plants. *Natural Areas Journal* 17 (2): 99- 109.

Orzell, S.L. 1997. Natural Areas Inventory for Avon Park Air Force Range in Polk and Highlands Counties, Florida. Final Report to Avon Park Air Force Range, FL 91 pp. Appendices I-II.

URS 2003. Toxic Release Inventory-Data Delivery System. Version 3.1.1. Oak Ridge, Tennessee. Prepared for the DoD EPCRA TRI Working Group.

USAF 2000a. Compliance and Standardization Requirements List, Item No. 3.3. Air Combat Command Directory 90-2550, 20 June 2000.

USAF 2000b. Draft Environmental Assessment for Continued Training at the Avon Park Air Force Range, Florida, April 2001

USAF 2001. Final Environmental Assessment for Construction of Military Operations in Urban Terrain Target Arrays at Avon Park Air Force Range, *April 2001*.

USAF 2004a. Realistic Training Review Board (RTRB) Action Item 02-27. <https://do.acc.af.mil/DOT/DOTO/RT/Archives.asp> (secure website).

USAF 2004b. Avon Park Air Force Range Annual Burn Plan, 2004.

USAF 2004c. *Phase I Archaeological Survey of 4,147.1 Acres, and Phase II Site Evaluations at 8HG24, 8HG767, and 8PO3405, Avon Park Air Force Range, Polk and Highlands Counties, Avon Park, Florida, Draft Final*. Headquarters Air Combat Command (HQ ACC). On file, 18 ASOG, Det 1, OLA/CEVN, Avon Park Air Force Range, Florida. 2004

USDA 1990. Soil Survey of Polk County, Florida. Soil Conservation Service.

## **6.0 Agencies and Publics Contacted**

Dr. Janet Snyder Matthews, Ph.D.  
Director and State Historic Preservation Officer  
Division of Historic Resources  
Florida Department of State  
500 South Bronough Street  
Tallahassee, FL 32399-0250

Ms. Sally B. Mann  
Director of Intergovernmental Programs  
Florida State Clearing House  
Department of Environmental Protection  
Marjory Stoneman Douglas Building  
3900 Commonwealth Boulevard  
Tallahassee, FL 32399-3000

Avon Park City Manager  
City of Avon Park  
110 E. Main Street  
Avon Park, FL 32825

Highlands County Planning  
P.O. Box 1926  
Sebring, FL

Polk County Developmental Services  
Drawer CS05  
Bartow, FL

The News-Sun  
2227 U.S. 27 South  
Sebring, FL 33870

The Ledger  
P.O. Box 408  
Lakeland, FL 33802

## **7.0 List of Preparers**

John W. Bridges  
Lead Wildlife Biologist  
Avon Park AFR, FL  
M.S., Natural Resources, Memphis State University, 1984  
Years of Experience: 31

Richard L. Cutshall  
Range Operations Manager  
18 ASOG, Detachment 1  
MacDill AFB & Avon Park AFR, FL  
B.S, Aeronautical Science - Embry Riddle Aeronautical University, 1976  
Years of Experience: 35

Roger Grebing  
Chief, Compliance Branch  
Avon Park AFR, FL  
MS, Water Resources and Bioenvironmental Engineering, Oklahoma State University, 1973  
Years of Experience: 19

Stacey Hayford  
Restoration Project Manager  
Avon Park AFR, FL  
B.B.A Business Management, Valdosta State University, GA, 2001  
Years Experience: 3

Marian Lichtler  
Supervisory Wildlife Biologist  
Avon Park AFR, FL  
B.S., Natural Resources, University of Nebraska, Lincoln, 1985  
Years of Experience: 15

Kurt E. Olsen  
Supervisory Forester,  
Avon Park AFR, FL  
B.S. Forestry, University of Florida, 1976  
Years of Experience: 27

Steve L. Orzell  
Botanist/Ecologist, Natural Resources  
Avon Park AFR, FL  
M.S., Southern Illinois University, Carbondale, Illinois, 1983  
Years Experience: 29

Ronald S. Penfield  
Supervisory Rangeland Management Specialist,  
Avon Park AFR, FL  
B.S. Forest Resources and Conservation, University of Florida, 1975  
Years of Experience: 28



Hal W. Sullivan, Contractor  
Range Operations Technician  
18 ASOG, Detachment 1, OL-A  
Avon Park AFR, FL  
AAS, Information Systems Technology - Community College of the Air Force  
Years of Experience: 24

Ty Swirin  
Forester  
Avon Park AFR, FL  
B.S., Conservation Natural Resources, Southeastern Oklahoma State University, 1995  
Years of Experience: 6

Johnna Thackston  
Archeologist  
Moody AFB, GA  
M.P.A., Environmental Policy and Natural Resource Management, Indiana University, 1993  
Years of Experience: 16

Sam Van Hook  
Supervisory Forester, Fire Management Officer  
Avon Park AFR, FL  
B.S., University of Florida, 1974  
Years of Experience: 29

Tod Zechiel  
Natural Resources Specialist – NEPA  
Avon Park AFR, FL  
Masters of Agriculture, Texas A&M University, 1987  
Years of Experience: 15

## **Appendix A: Record of Consultation with Regulatory Agencies and Publics**

2 December 2004

MEMORANDUM FOR Dr. Janet Snyder Matthews, Director  
Division of Historical Resources  
Review and Compliance Section  
R.A. Gray Building, 4<sup>th</sup> Floor  
500 S. Bronough Street  
Tallahassee FL 32399-0250

FROM: 18 ASOG, DET 1/CC  
8707 N. Golf Course Avenue  
MacDill AFB FL 33621-5321

SUBJECT: Undertakings Affecting the North Tactical Range

1. The US Air Force proposes to expand the North Military Operations in Urban Terrain (MOUT) Target Arrays located in the North Tactical (aka Foxtrot) Range at Avon Park Air Force Range (APAFR), located in Polk County, Florida. The North MOUT currently consists of mock buildings and various vehicle targets. The training purpose of the North MOUT is to acquire and hit targets with inert ordnance while avoiding collateral damage to the buildings. The original North MOUT was designed with a finite number of buildings with variable target placement nearby. The expanded North MOUT moves some of these buildings, adds portable pop-up targets, and demarcates an area that allows for the continuous expansion of new buildings. Currently, 32 additional buildings are proposed to be added in 2005 with the potential for more buildings in the future. The constraint is that all new buildings, relocated buildings, and portable pop-up targets will be within the demarcated perimeter.

2. APAFR entered a Section 106 consultation with your office in a letter dated 19 October 2000 for establishing the original North MOUT site. APAFR determined no adverse impact to cultural resources. Your office concurred in a letter dated 22 November 2000.

3. The following is the minimum documentation for the expanded North MOUT.

a. **Division Involvement** - This is a federally initiated project on federally owned property. Section 106 of the National Historic Preservation Act prompts review of our actions by your office.

b. **Project Description** - The project relocates two steel buildings and adds 30 new buildings within a demarcated circle (Attachment 1). The circle is approximately 25.5 acres. The existing buildings are steel and are made of stacked sea-land containers. The new buildings, both in 2005 and in the future, will be either steel sea-land containers or stacked, large concrete blocks. The individual concrete blocks are 6 feet x 3 feet x 2 feet. The containers and blocks are hauled on

*Mailed  
12/15/04  
8*

site by trucks using existing roads. The containers and blocks are stacked by a forklift. Only a minor amount of earth leveling is required for construction. Past construction with the sea-land containers resulted in most buildings requiring no leveling. The containers were simply placed on the ground. The pop-up targets are remote controlled, and pop up as silhouettes of people. The pop-up targets are two feet by seven feet and are typically dug 12 inches into the ground. When not in use, the targets are removed from the North MOUT and placed in storage. Soft and hard vehicle targets are placed anywhere within the perimeter. The vehicles are either airlifted in or towed in.

**c. Project Location and Maps** – The project location for the expanded North MOUT is T32S, R30E, S11, NWNE, as shown in Attachment 2 on USGS 7.5 Minute Series Map, Lake Arbuckle, NE, FLA.

**d. Photographs** – Enclosed on the CD (Attachment 3) are digital photographs of some of the existing mock buildings as well as electronic versions of the attached maps for this project.

**e. Description of the Project Area** – The project area occupies native dry-mesic pine flatwoods. Man-made features include a four-way intersection of unimproved roads, mock steel buildings, and various soft and hard military vehicles serving as targets.

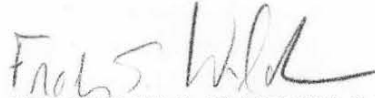
**f. Description of Buildings and Structures** – There are no buildings or structures per se, the existing buildings are mock and do not have formal entrances.

**g. Recorded Archaeological Sites or Historic Buildings/Structures** – A Phase I Cultural Survey was performed in and around the North MOUT in January 2004. An extension of the previously known Seaboard Air Line Railway was discovered just south of the North MOUT. The railway was found to connect the previously documented historic site Nalaka Turpentine (FMSF# 08-PO-0993) to the north to a turpentine camp to the south (Attachment 4). The turpentine camp to the south was discovered during a Phase I Cultural Survey during the spring of 2004 and has been tentatively named the Zechiel Bell Turpentine Camp Site. Also in the spring of 2004, the Seaboard Air Line Railway was determined to connect not only the Nalaka Turpentine and Zechiel Bell sites, but also the Keene Homestead (FMSF# 08-PO-0994), Bravo Turpentine (FMSF# 08-PO-1007), and Sandy Hill Turpentine Camp (FMSF# 08-HG-0024). A report from APAFR for the network of the Seaboard Air Line Railway is pending. The project area does not include the railway.

4. APAFR believes that expanding the North MOUT is unlikely to adversely affect significant cultural resources. We would like your input on this course of action. We would greatly appreciate your response within 30 days of the receipt of this letter. Please mail your response to:

18 ASOG, DET 1, OL A/CEVN  
ATTN: Mr. Tod Zechiel  
29 South Blvd  
Avon Park AFR FL 33825-5700

If you have any questions, please contact Tod Zechiel of my staff at (863) 452-4119, ext 328, or by e-mail at [Tod.Zechiel@avonpark.macdill.af.mil](mailto:Tod.Zechiel@avonpark.macdill.af.mil).



FRANKLIN S. WALDEN, Lt Col, USAF  
Commander

Attachments:

1. Site map location
2. USGS map (photocopy)
3. CD
4. Cultural site locations



FLORIDA DEPARTMENT OF STATE

**Glenda E. Hood**

Secretary of State

DIVISION OF HISTORICAL RESOURCES

Mr. Tod Zechiel  
Department of the Air Force  
18 ASOG, DET 1, OL A/CEVN  
29 South Boulevard  
Avon Park Air Force Range, Florida 33825-5700

January 3, 2005

RE: DHR Project File Number: 2004-1211680  
Received by DHR December 7, 2004  
Expansion of the North Military Operations in Urban Terrain (MOUT) Target Arrays  
Avon Park Air Force Range, Polk County

07 JAN REC'D

Dear Mr. Zechiel:

Our office received and reviewed the above referenced projects in accordance with Section 106 of the *National Historic Preservation Act of 1966*, as amended and *36 CFR Part 800: Protection of Historic Properties*. The State Historic Preservation Officer is to advise Federal agencies as they identify historic properties (listed or eligible for listing in the *National Register of Historic Places*), assess effects upon them, and consider alternatives to avoid or minimize adverse effects.

Based on the information provided, it is the opinion of this office that the proposed undertakings will have no effect on historic properties.

If you have any questions concerning our comments, please contact Scott Edwards, Historic Preservationist, by electronic mail [sedwards@dos.state.fl.us](mailto:sedwards@dos.state.fl.us), or at 850-245-6333 or 800-847-7278.

Sincerely,

*Barbara E. Mattick*  
*Deputy SHPO for Survey & Registration*  
for Frederick Gaske, Director, and  
State Historic Preservation Officer

500 S. Bronough Street • Tallahassee, FL 32399-0250 • <http://www.flheritage.com>

☐ Director's Office  
(850) 245-6300 • FAX: 245-6436

☐ Archaeological Research  
(850) 245-6444 • FAX: 245-6436

☒ Historic Preservation  
(850) 245-6333 • FAX: 245-6437

☐ Historical Museums  
(850) 245-6400 • FAX: 245-6433

☐ Southeast Regional Office  
(954) 467-4990 • FAX: 467-4991

☐ Northeast Regional Office  
(904) 825-5045 • FAX: 825-5044

☐ Central Florida Regional Office  
(813) 272-3843 • FAX: 272-2340



Jeb Bush  
Governor

## Department of Environmental Protection

Marjory Stoneman Douglas Building  
3900 Commonwealth Boulevard  
Tallahassee, Florida 32399-3000

Colleen M. Castille  
Secretary

January 4, 2005

Mr. Tod P. Zechiel  
18 ASOG, DET 1, OL A/CEVN  
29 South Boulevard  
Avon Park AFR, FL 33825-5700

RE: Department of the Air Force – Final Environmental Assessment for Expanding Military Operations in the North Urban Terrain (MOUT) Target Array at Avon Park Air Force Range – Highlands and Polk Counties, Florida.  
SAI # FL200501040342C

Dear Mr. Zechiel:

Florida State Clearinghouse staff, pursuant to Presidential Executive Order 12372, Gubernatorial Executive Order 95-359, the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended, and the National Environmental Policy Act, 42 U.S.C. §§ 4321, 4331-4335, 4341-4347, as amended, has reviewed the referenced final environmental assessment.

Based on the information contained in the document, the state has determined that the proposed federal action is consistent with the Florida Coastal Management Program. Please be advised that the federal agency must, however, address any issues identified by the Florida Department of State, Division of Historical Resources prior to project implementation.

Thank you for the opportunity to review this proposal. If you have any questions regarding this letter, please contact Ms. Lauren P. Milligan at (850) 245-2161.

Sincerely,

Sally B. Mann, Director  
Office of Intergovernmental Programs

SBM/lm

"More Protection, Less Process"

Printed on recycled paper.